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PATTERNS OF TEMPORARY MOBILITY IN AUSTRALIA: EVIDENCE FROM THE 1991 CENSUS

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Summary

While Census data are generally employed to examine permanent migration, they also provide a unique window on temporary population movements, a phenomenon largely neglected in Australia. Building on the work of Zelinsky, this paper outlines a conceptual framework for analysis of temporary mobility and reviews the strengths and limitations of the Census as a source of information. Data from the 1991 Australian Census are then used to analyse the incidence of temporary movements, the characteristics of temporary movers, and their spatial distribution. It is shown that temporary mobility is selective of certain groups and that there are substantial concentrations of temporary movers in both coastal and inland locations. By combining analysis of their origins with the attributes of their destinations, a preliminary typology of temporary population movement is proposed. The concluding section considers the implications of this form of mobility and identifies some avenues for further research.

Note: Associated tables and figures appear at the end of the document.

Most Australian research on population mobility has focused on 'permanent' migration, defined and measured as a change in usual residence, or transition, between two points in time. Permanent moves are important because migration is the principal mechanism generating changes in the pattern of human settlement. However, residential relocations represent only a small proportion of all population mobility. Moreover, while annual migration rates in Australia have remained relatively stable over the past two decades (Bell, 1995) the range and incidence of temporary movements have risen dramatically (Hugo, 1988).

The growing significance of temporary mobility was foreshadowed in Zelinsky's (1971) influential *Hypothesis of the Mobility Transition*. Zelinsky anticipated that as countries modernised they would experience a rapid acceleration in the incidence of what he termed 'circulatory movements', the emergence of new forms of circulation, and the substitution of circulation for some forms of permanent migration. Paradoxically, circular mobility has achieved greater prominence in research on developing nations than in the West (Chapman and Prothero, 1983; Prothero and Chapman, 1984). Analysis in industrialised countries has tended to focus on specific population groups, types of movement or particular localities. In Australia, like the United States, seasonal migration among retirees has received the greatest scrutiny (Pollard, 1996; Mings, 1997), but other forms of temporary mobility have also been examined. Examples include the work of Houghton (1993) on fly-in/fly-out movements to mining communities, Faulkner (1988; Faulkner *et al.*, 1995) on tourist movements and Taylor (1996) on the indigenous population. There is also a growing literature on business trips, temporary labour migration and student movements, but this has focused on international rather than domestic travel (see, for example, Sloan and Kennedy [1992]).

While this work has made a valuable contribution to our understanding of particular forms of temporary movement, research to date has been diffuse, fragmented and unsystematic. What has been lacking, as a consequence, is any sense of the overall incidence and structure of temporary population mobility within which specific findings can be situated (Taylor and Bell, 1996). Apart from the theoretical void, one glaring effect has been that there is no basis from which to assess the implications of temporary mobility for planning and policy.

This paper takes some first steps towards addressing these deficiencies through analysis of

data from the 1991 Australian Census of Population and Housing. Although Census data are conventionally used to study permanent migration, comparison of data on place of usual residence with place of enumeration at the time of the Census opens a unique window on temporary population movements. Similar data have been collected at each Census since 1976 but have only been subjected to brief scrutiny by previous analysts (for example, Hugo [1987]).

We begin by outlining a conceptual framework and examining the strengths and limitations of the Census as a source of information on temporary migration. The substantive analysis which follows proceeds in three stages. First, it seeks to establish trends in the incidence of temporary population mobility in Australia and the characteristics of temporary movers. Second, it identifies the major spatial concentrations of temporary movers at the State and Local Government Area (LGA) level. Third, by analysing the origins of temporary movers and the attributes of their destinations, it develops a preliminary typology of temporary population movements. The concluding section examines the implications of temporary mobility and suggests avenues for further research.

Temporary mobility: a framework for analysis

One of the fundamental propositions of Zelinsky's *Hypothesis of the Mobility Transition* is that there are 'major orderly changes in the form as well as in the intensity of spatial mobility' as nations proceed through the process of modernisation. Zelinsky (1971, 222) anticipated changes not only in the spatial and temporal dimensions of population movements, but also in their function and in the types of people they involved. Allied to this was the view that all territorial mobility, extending from brief local trips to intercontinental migration, should be treated as a continuum.

In practice, mobility research has been driven largely by the dictates of the available data. Migration, defined as a permanent or semi-permanent change of residence, has generally been distinguished from other forms of mobility by the duration of the move and segmented according to the types of boundaries that are crossed (Figure 1). In Australia, for example, migration is deemed to occur if an individual's place of usual residence at the Census differs from that one or five years earlier. Usual residence, in turn, is defined as that address at which the person has lived (or intends to live) for six months or more (Australian Bureau of Statistics, 1991). While this simple mover/stayer dichotomy has several advantages, it obscures a diverse array of other movements (Bell, 1996a). These range from local, diurnal activities such as shopping and commuting, to those involving longer distances and durations, such as holiday-making, business trips, seasonal work, and temporary absences from home for health care and education. Zelinsky (1971, 226) grouped all these movements under the rubric 'circulation', their defining characteristic being the absence of any declared intention to change residence permanently.

Like migration, circulatory moves invite a variety of classificatory schemas. Movements could be categorised, *inter alia,* according to purpose of trip, distance moved, length of stay, motives, origin-destination linkages, or mover characteristics. Structural, economic, socio-logical and behavioural perspectives all provide valid approaches (Zelinsky, 1983). Compared with permanent migration, however, temporary moves present a number of additional challenges. First, they cannot be fitted neatly inside the partitions created by segmenting the space-time matrix (Figure 1). Many forms of temporary move extend over more than one partition, although at varying strengths. A corollary is that specific types of move do not occupy exclusive domains. There is considerable overlap between different forms of temporary mobility; there may also be gaps on the graph, or zones that are sparsely populated. Thus, it is possible to visualise a 'sequence' of layers that extend, at varying intensities, across particular regions of the space-time matrix and combine to form a temporary mobility surface. However, this simple image is complicated by a second set of features. Compared with migration, temporary moves are often repetitive, and individual forms differ in their timing and periodicity. Viewed over a year, then, the surface is an undulating palimpsest.

A shift in focus provides the basis to pursue this visualisation to encompass changes over the longer term. Zelinsky (1971) envisaged that rising personal mobility, predicated on cheaper travel, would lead to a progressive expansion in the circulator's cruising range and the substitution of circulation for some forms of migration. New circulatory forms, both economic and non-economic, were also anticipated and these are clearly emerging. Examples include temporary movements among highly skilled professionals, facilitated by globalisation of the labour market, seasonal 'migration' among retirees and cyclical movements of mining workers to remote locations using fly-in/fly-out arrangements. At the same time, long-standing forms of circulation, such as the journey to work, are being absorbed by telecommunications. Thus, the morphology of the mobility surface is being transformed and one element of this is a blurring of the boundaries between circulation and migration.

To move from this qualitative image through empirical analysis to understanding poses a formidable challenge. Research is needed not only to establish the broad structure of circular mobility, to isolate its various forms and describe its underlying dynamics, but to develop appropriate means of measuring and modelling the phenomenon. Progress in science relies on the interdependent development of theory, methods and data (Bell, 1996a). In the case of circular mobility, the formative work in each case remains to be done but, at the most fundamental level, it is the absence of suitable, reliable data that largely accounts for the embryonic state of the field.

While no single data set captures every facet of circular mobility, the Census offers a unique window on key aspects of this movement at one point in time — its incidence, composition and spatial manifestation. This offers at least partial answers to the three traditional questions of mobility research: *Who moves? Where do they move?* and *How much do they move?* It also provides useful analytical insights into two remaining questions: *Why do they move?* and *What are the implications?*

The Census as a source of data on temporary mobility

The window the Census provides on temporary population mobility derives from two key questions. These identify each individual's place of enumeration on Census night and their place of usual residence. In Census parlance, people counted away from home are termed 'visitors'. For the current purpose, however, 'temporary movers' seems preferable. 'Visitors' has connotations of tourism and of attachment to a single place (the destination) whereas temporary movement is a generic concept and better captures the link to two or more locations. The term 'temporary mover' also underlines a crucial difference from Zelinsky's more general definition of circular mobility. Because of the way they are derived, Census data on temporary mobility refer solely to people who spent at least one night away from home (the shaded area in Figure 1) and exclude the many forms of daily activity (Smith, 1994). The Census does collect information on one form of diurnal movement — the journey to work — but that is not examined further here.

The major advantages of the Census lie in its comprehensive coverage of the population, the range of personal attributes collected, and the facility this provides to analyse population characteristics at the small area level. By comparison, surveys of particular forms of temporary movement, such as those conducted by the Bureau of Tourism Research (BTR), are restricted in terms of coverage, spatial disaggregation and compositional detail (Jones, 1996). A particular benefit is that the Census enables comparison of temporary movers with permanent migrants. Like all data sources, however, it has a number of limitations.

In the context of this paper the most significant shortcoming is that the Census provides a simple cross-section of mobility status at a specific point in time. One consequence is that it provides no information on the duration of absences from home. As a result, it is not possible to differentiate people who are away for a single night from those on extended trips. A second problem is seasonality. The Census is deliberately scheduled to minimise the likelihood of people being away from home. Indeed, the decision to shift the Census date from 30 June to 6 August for the1991 Census was taken to avoid coincidence with school

holidays after state and territory education departments converted to a four term school year (Australian Bureau of Statistics, 1991, 34). BTR data reveal marked variations in the incidence of domestic travel with the number of trips made in August some 40 per cent below the December/January peak (Bureau of Tourism Research, 1995a). However, the pattern of seasonality varies for different types of travel and, while vacation trips among families with children are low at Census time, other forms of temporary movement, such as winter sports holiday-making, are at their peak. Thus, like any snapshot, the picture derived from the Census is not necessarily representative of either the magnitude, composition or spatial distribution of temporary movements at other times of the year.

The Census definition of usual residence may also lead to some temporary movers being missed. The Census effectively assumes that each individual occupies a single, usual residence (Behr and Gober, 1982) and people with no usual residence are instructed to regard their location on Census night as their usual address. If frequent movers, such as seasonal workers, followed this guide, they would be classified as spending Census night at home. Similar problems arise among groups such as transients and the homeless, children in bipolar families, people who live in mobile homes or recreational vehicles, and seasonal migrants who occupy a different dwelling for part of the year. On the other hand, people away from home for 12 months or more could still be classified as temporary movers if they had not spent at least six months at one address.

A more general deficiency is under-enumeration. The overall undercount at the 1991 Census was just 1.8 per cent but the figure for people counted away from home (16.5 per cent) was significantly higher (Trickett, 1992). This may in part be a statistical artefact due to problems of address-matching of temporary movers in the post-enumeration survey (Trickett, 1992, 5), but it is a persistent problem in migration research that the more mobile members of the community are the most difficult to locate.

Finally, it should be noted that the Census provides no information on why people were away from home. As will be shown below, some insights can be derived from the characteristics of temporary movers and their locations. However, because of Census coding procedures, certain potentially useful characteristics, such as family and household type, are not available for people away from home on Census night. Care is also needed in interpreting attributes such as occupation and industry, since these refer to respondents' usual employment and are not necessarily connected to their status as temporary movers.

Notwithstanding these shortcomings, the Census is unique in providing a national overview of different forms of temporary mobility and their spatial manifestation. As such, it offers a useful starting point in the endeavour to establish 'the facts' of temporary population movement. For the purposes of this paper, we draw on two standard Census publications. Data on the number of people counted away from home on Census night are set out in standard tables in the Community Profiles. For any given area these tables identify the number of temporary movers from four broad origins, differentiating those usually resident in the same Statistical Local Area (SLA), elsewhere in the same state, interstate (by state) and overseas. Information on the characteristics of temporary movers is drawn from the Census one per cent households sample file. Most of the data refer to 1991 but selected information from earlier Censuses and from newly released data for 1996 are also included. To supplement these sources, selected data from the Domestic Tourism Monitor and International Visitor Survey are also used (Bureau of Tourism Research, 1995a; 1995b).

The incidence of temporary mobility

Data from the Census provide qualified support for the expected increase in temporary mobility (Table I). The proportion of people counted away from home grew from 5.1 per cent in 1976 to 5.9 per cent in 1981 but then fell to below 5 per cent in 1986. However, the subsequent decade has seen a steady rise. Despite the change in Census date to avoid school holidays, the proportion grew to 4.9 per cent in 1991 and 5.4 per cent in 1996. While the percentage figure appears small, temporary movers numbered almost one million in 1996 and represented more than one in twenty of the population.

The characteristics of temporary movers

One of the few enduring regularities identified in migration research is that the propensity to move varies systematically by age. Migration rates peak among young adults and fall steadily at older and younger ages, with small rises around retirement and among young children. Figure 2 demonstrates that the age profile of temporary mobility shares some of these features, but also displays significant differences. By far the highest rates of temporary mobility (calculated as the proportion of each age group counted away from home) are found, not among young adults, but at older ages. The age profile of temporary mobility reaches a peak at age 20–24, falls rapidly to a trough at ages 35–44 but then climbs steadily to reach its highest point among people aged 65–69, declining marginally thereafter. Despite this drop at the oldest ages, fully one in 12 people aged 65 and over were away from home on Census night. This high temporary mobility among older people contrasts sharply with their relatively low rate of permanent migration but is consistent with earlier findings indicating substantial repeat movement (Bell, 1996b).

Temporary moves among the aged cannot be attributed to involuntary absences in hospitals or respite care. Less than three out of ten temporary movers (28.8 per cent) were enumerated in non-private dwellings and almost half of these (13.7 per cent of the total) spent Census night in hotels, motels and boarding houses (Table II). Another one in four (7.0 percent of the total) were counted in hospitals and homes for the aged. As might be expected, hospitals and aged care facilities assumed increasing importance with age, accounting for 54 per cent of 70–74 year olds in non-private dwellings and 71 per cent of those aged 75 and over. Even among the aged, however, these locations accounted for a minority of all absences from home: two-thirds of temporary movers aged 75 and over and three-quarters of those aged 65 and over spent Census night in a private dwelling. The proportion in non-private dwellings was actually highest at ages 10–14 and among people in their forties. The latter were located mainly in hotels, motels and boarding houses, but the former probably comprise secondary students in boarding schools.

As might be expected, the widowed, together with the never married, separated and divorced were over-represented among temporary movers, as were people outside the labour force. This is partly a product of age structure, but it also points to the greater opportunities for mobility available to people not tied to employment or to a domestic partnership. For the unemployed (who display very high rates of permanent migration), however, low income presumably restricts temporary mobility.

Among employed workers, Table II reveals that temporary mobility is highest among people employed in the extractive industries (agriculture and mining) and among managers, professionals and para-professionals. High temporary mobility in farming almost certainly reflects the peripatetic movement of seasonal workers such as fruit pickers and shearers, and contrasts strongly with the very low rate of permanent migration characteristic of people employed in agriculture (Bell and Maher, 1995). For miners, fly-in/fly-out arrangements are important (Houghton, 1993) but the industry generally is characterised by high mobility and substantial turnover of unskilled labour (Bell and Maher, 1995).

Business travel probably contributes to the above average incidence of temporary movement among the high status occupational groups. Their high temporary mobility could also be a product of larger disposable income, facilitating travel for pleasure and unrelated to activities associated with their occupations. High income earners displayed an above average propensity to be away from home on Census night, although this was also true of those in the lowest income group (Table II). For the poor, however, temporary absences from home, like migration, may be involuntary rather than discretionary (Wulff and Newton, 1996).

Recent residential mobility does not appear to predispose people to engage in temporary moves. People who changed residence between 1986 and 1991 (5.2 per cent) were only a little more likely to be away from home on Census night than their counterparts who had

remained in the same dwelling (4.8 per cent). By extension, these data also suggest that temporary mobility is not a substitute for migration. Although such substitution does occur over time (Houghton, 1993) and among particular population groups (Pollard, 1996), in general the two forms of movement appear to fulfil different functions.

Distance moved

Distinctive differences between permanent and temporary movers are also apparent in the spatial domain. Temporary moves tend, on average, to involve longer distances than permanent changes of residence (Table III). Whereas local moves (within the same SLA) accounted for 27 per cent of all permanent changes of residence between 1986 and 1991, less than 19 per cent of temporary moves were to another location in the home SLA. Conversely, only 12 per cent of 1986–91 migrants moved interstate whereas 26 per cent of temporary movers had crossed a state or territory boundary. Indeed, the number of people counted outside their state or territory of usual residence in 1991 (212 000) was not far short of the 255 000 who made a permanent interstate move over the preceding year (Bell, 1996b, 153).

As noted earlier, the Census does not collect information on the reasons people were away from home on Census night but BTR data indicate that the mix of motives varies markedly according to the distance moved (Table IV). International movements tend to be dominated by travel for holidays and pleasure. Domestic trips are less clearly differentiated, but business reasons are more significant among interstate travellers while holidays, visits to friends and relatives and 'other' reasons feature more strongly among people remaining in their home state. As will be shown below, the representation of particular types of movement varies markedly across space and this is presumably reflected in the motives of the visitor population. We first examine variations in patterns of visitation at the state and territory level and then consider the local dimension.

Patterns of temporary mobility: the state level

At the state level, the largest concentration of temporary movers was in the Northern Territory (14.9 per cent of the enumerated population), followed by Queensland (7.4 per cent) and Western Australia (5.7 per cent), while proportionally the smallest presence was in Victoria (3.3 per cent) (Table V).

Much of this variation can be traced to particular types of movement. The Northern Territory, for example, registered above average proportions of temporary movers from all sources, but the largest group were from interstate. Indeed, it is striking that one in seven people counted in the Northern Territory were away from home on the night of the Census and one in ten usually lived in another state or territory. The demography of the Northern Territory is unique in several respects and it has a number of features that may contribute to the high level of temporary mobility. Part of the explanation almost certainly lies in the Territory's substantial Aboriginal and Torres Strait Islander (ATSI) population. Taylor (1996) provided evidence that the 'walkabout' phenomenon among ATSI people is more than mere mythology: the proportion of ATSI people counted away from home on Census night (7 per cent) was substantially higher than for the population as a whole (4.9 per cent), although much of this temporary movement appears to be of a local nature.

The Territory's economic base may also be a contributing factor. A high rate of visitation from interstate is consistent with the Territory's tourism attractions, but it may also reflect its extensive mining activities. Increasingly mining operations in remote areas are based on fly-in/ fly-out arrangements (Houghton, 1993) and mining personnel have among the highest rates of interstate movement of all industry sectors (Bell and Maher, 1995, 49). The large proportion of temporary movers from interstate in the Territory's population is also consistent with its high rate of turnover through interstate migration (Bell and Maher, 1995, 91–92; Bell, 1996b, 159).

Queensland, the state with the second highest representation of temporary movers, displays a similar profile, with above average proportions from all sources, except the same SLA. At around twice the national average, temporary movers from interstate are again significant,

although they do not feature as strongly as in the Northern Territory. Moreover, it is notable that the number of temporary movers from interstate was matched by an almost equal number counted within Queensland but outside their home SLA (Table V). Temporary movers to Queensland from interstate and overseas are generally assumed to be tourists (Hugo, 1987; Pollard, 1996) and tourism may also account for a substantial share of local absences from home. This high rate of visitation underscores Queensland's well-documented attributes in relation to climate, environment, lifestyle and amenity (Stimson et al., 1996), but it also reflects the particular timing of the Census. Although movement to the sunbelt, like domestic tourism generally, peaks at Christmas (Bureau of Tourism Research, 1995a), the Census coincides with the depths of winter in southern Australia and the period when Queensland's climate is most attractive.

Other notable features of Table V include the relatively small proportions of interstate and overseas visitors in Tasmania, South Australia, Victoria and New South Wales (despite the latter's role as the prime destination and principal port of entry for overseas tourists), the dominance of intrastate visitors in Tasmania and Western Australia (reflecting their relative isolation) and the comparatively low rate of local visitation within the Australian Capital Territory (almost certainly a product of its geographic size).

Previous analysts have drawn attention to similarities between the pattern of temporary movements in Australia and the pattern of interstate migration (see, for example, Pollard [1996]). Figure 3 certainly suggests strong parallels, with a significant drift of temporary movers away from the southeast of the continent to the north and west, closely paralleling the pattern of interstate migration depicted widely by Australian analysts (for example, Bell [1995, 50–52]). However, the resemblance between the two sets of movements is largely a product of the dominant streams along the eastern seaboard. As can be seen from Table VI, the net loss of temporary movers from New South Wales and Victoria and the gain in Queensland in 1991 parallel the pattern for interstate migration between 1990 and 1991, but in the smaller states and the territories the balances are reversed. Comparison of interstate migration rates with a similar matrix of interstate temporary mover rates (to control for differences in state and territory population size) delivers a similar finding, with a correlation coefficient (Pearson's r) of 0.74 ($r2 = 0.55$). This suggests that, while some of the reasons for temporary interstate movement may be similar to those driving interstate migration, there are also significant differences. This variation in patterns is also apparent at the local level.

The local level

To provide a sub-state perspective, this section examines patterns of temporary movement at the Local Government Area (LGA) level. At the time of the 1991 Census there were 832 LGAs in Australia. For the purposes of this analysis four additional regions have been accorded LGA status. These are the Australian Capital Territory and the unincorporated parts of New South Wales, South Australia and the Northern Territory.

Table VII classifies these LGAs according to the representation of temporary movers in the 1991 Census count. In more than half, temporary movers comprised less than five per cent of the population. However, there were 115 LGAs in which they made up 10 per cent or more, and 36 where they accounted for at least 20 per cent. The last group is set out in rank order in Table VIII. In two cases, Snowy River, in the centre of the New South Wales snowfields, and Shark Bay, a popular tourist destination on the remote, central coast of Western Australia, temporary movers made up in excess of half the population count. In some instances the actual numbers were quite small. Four of the 36 LGAs housed less than 100 temporary movers on Census night and eight hosted less than 200. Relative to the enumerated population the impact of these visitors would nevertheless have been considerable.

While temporary movers had a substantial presence in the central cities (for example, Adelaide and Sydney) and in some coastal areas (for example, Cairns, Douglas and Whitsunday), Figure 4 reveals that there were also heavy concentrations in many inland and

remote locations.

This distribution stands in stark contrast to the pattern of permanent population movements. Some of the coastal locations in Queensland and New South Wales that attracted temporary movers also registered substantial migration gains. However, the general pattern across inland and remote Australia has been one of persistent and heavy net migration loss (Bell, 1995). Similarly, although the central cities have halted their long-standing population decline, few have recorded significant in-migration. As a result, there was a very low association between the two distributions. Computed across the 832 'true' ' LGAs, the coefficient of correlation (Pearson's *r)* between the rate of net migration gain and the percentage representation of temporary movers was just 0.14 *(r*2 = 0.02). This reinforces the earlier suggestion that while there may be some linkages, the two forms of movement serve different purposes and respond to distinctive sets of forces.

Although the LGAs in Table VIII all hosted substantial temporary populations, the source of visitors varied widely. In Snowy River, for example, the majority of temporary movers was from other parts of New South Wales, whereas Queensland's Douglas Shire was most attractive to people from interstate, and Sydney City to those from overseas. One common feature is the comparatively small proportion of people counted away from home but within their LGA of usual residence. Where variations in local movement occur these are probably related to geographic size, since overnight stays are more likely to substitute for day trips when distances are large (Buchanan, 1996).

The way in which patterns of visitation from elsewhere in the same state, interstate and overseas vary across space is readily apparent when the data are mapped (Figures 5–7). Turning first to intrastate movers, Figure 5 reveals a cluster of LGAs with high rates of within-state movement in Western Australia, and more scattered occurrences in Victoria, New South Wales and Queensland. Perhaps the most striking feature of this map is the predominance of inland locations, remote from the major population centres. Two main types of area feature strongly. On the one hand are tourist destinations such as Shark Bay, Exmouth, Northampton and Broome in Western Australia; and winter sports venues such as Snowy River in New South Wales, and Bright and Mansfield in Victoria. On the other hand are inland pastoral and mining regions such as Sandstone, Yalgoo, Cue, Murchison, Meekatharra, Leonora and Menzies in Western Australia, Isisford, and Quilpie in Queensland, and South Australia's far north.

The distribution of temporary movers from interstate reveals a rather different pattern (Figure 6). Tourist centres again feature strongly but the destinations favoured by interstate travellers differ from those of people holidaying within their home state. In Queensland, Douglas, Whitsunday, Gold Coast, Noosa and

Hervey Bay are prominent; in Victoria and New South Wales, the snowfields act as a national drawcard; in Western Australia and the Northern Territory, it is remote locations such as Shark Bay, Broome, Katherine and Tennant Creek. While many of these are tourist destinations in their own right, others appear to be 'stopover' locations between major centres.

Figure 7 illustrates the distribution of temporary movers from overseas. Again tourist centres are prominent with strong concentrations in Queensland's Douglas, Cairns and Gold Coast, Alice Springs and Jabiru in the Northern Territory, and Shark Bay in Western Australia. However, the major urban centres, especially Sydney, are also important. The cities are the principal ports of entry and exit for international visitors, but they also attract tourists in their own right, both to their cultural amenities and by virtue of their strong immigrant presence which acts as a magnet for visits by friends and relatives living overseas (Dwyer *et al.,* 1993). The coastal location of Australian cities clearly contributes to the differing distribution of domestic and international visitors apparent from comparison of Figures 5 to 7.

Towards a typology of temporary mover destinations

The foregoing analysis provides the basis for constructing a broad typology of temporary

mover destinations. As an initial step, the 115 LGAs in which temporary movers represented more than 10 per cent of the enumerated population were subjected to Ward's (1963) hierarchical clustering algorithm. Clustering was based on five key variables with the aim of differentiating areas both in terms of the total representation of visitors and the source distribution of this population. These variables were:

- total temporary movers as a proportion of the Census count;
- the proportion of temporary movers usually resident elsewhere in the same SLA;
- the proportion of temporary movers usually resident elsewhere in the same state;
- the proportion of temporary movers usually resident interstate; and
- the proportion of temporary movers usually resident overseas.

The initial clustering procedure yielded four main groups. To refine the typology a qualitative assessment was then made of the principal economic or service (central place) function of each LGA. Where clarification was needed, local knowledge on the nature of temporary mover populations was sought, primarily from local government planners and chief executives. Geographic location was also taken into account. The adjusted typology distinguishes four principal types of temporary mover destination. Their key features are set out in Table IX.

The inner cities

Relatively large numbers of temporary movers are found in the inner cities of most major metropolitan centres. Temporary movers from overseas are strongly represented, underlining the role of the state capitals as gateways for international visitors and their inherent attractions noted earlier. However, the inner cities also host significant proportions of temporary movers from other parts of their own states and from interstate. This almost certainly reflects both the breadth of functions they fulfil and the wide range of accommodation they provide. More detailed data would be needed to assess the precise composition of this group but people located temporarily in the cities would include both holiday-makers and people travelling on business, as well as others in institutional accommodation such as hospitals, student colleges and nurses' ' quarters.

Major tourist destinations

A second group of LGAs is tourist destinations, located at some remove from the metropolitan centres. This group can be further differentiated into three sub-groups, based on the relative significance of visitors from the same state, interstate and overseas in their temporary mover profile (Table IX). The first sub-group comprises a number of major tourist resort locations on the Queensland coast. LGAs in this sub-group are distinguished by the predominance of interstate visitors. A second sub-group comprises LGAs on the northwest coast of Western Australia. These locations draw most of their visitor population from within Western Australia. Local knowledge suggests that many of those attracted to these destinations stay for several months, but there is also a strong contingent undertaking extended journeys around Australia, or within the remote northwest. The third sub-group comprises LGAs that can be characterised by the type of recreational activity they offer. Snowy River, Bright and Mansfield, located in Australia's alpine region, are classic examples. The very high proportions of people counted away from home in Snowy River (63 per cent) and Bright (50 per cent) are readily explained by the fact that the Census coincides with the peak of Australia's snow-skiing season. Cook Shire, on the other hand, offers an entirely different type of recreational activity. Covering much of Cape York peninsula in Queensland's far north, Cook offers a wilderness experience for many thousands of recreational four wheel drive enthusiasts each year. Unofficial estimates indicate that more than 65 000 vehicles travel to the northern areas of Cape York peninsula every dry season.

Temporary employment (centres of mining and primary production)

While a large proportion of temporary movements appears to be associated with tourism, some of the most significant concentrations are found in remote, inland areas of Queensland and Western Australia. Here, temporary movers are almost certainly associated with centres of mining and primary production, both of which attract a large itinerant workforce. Quilpie in Queensland, for example, is an area of extensive oil and gas exploration, but also offers temporary employment in the local pastoral industry. Similarly, the high proportion of temporary movers in Isisford is associated with pastoral activities. In Western Australia, most LGAs in this group are characterised by large proportions of temporary workers in the gold mining industry (for example, Sandstone and Yalgoo). Others, such as Murchison, feature temporary employment in both pastoralism and mining.

Tourist stopovers and temporary employment locations

A fourth group of LGAs straddles both the tourism and employment dimensions, offering temporary job opportunities, principally in the extractive industries, but also fulfilling a tourism function, often as 'stopover' ' locations. The Queensland LGA of Diamantina is a classic example. As well as providing seasonal work in the pastoral industry, Diamantina includes the town of Birdsville, located at the northern end of the famous 'Birdsville Track', ', and at the eastern end of the 'French Line' track across the Simpson Desert, and is a popular 'stopover' location for four wheel drive vehicles. Other Queensland LGAs in this group include Barcoo (pastoral industry and tourism), Bulloo (pastoral industry, oil and gas exploration, and tourism), and Etheridge (gold mining and tourism). Etheridge encompasses an area rich in gemstones and many tourists spend varying periods fossicking for gems.

Similar examples can be found elsewhere in Australia: in the Northern Territory, Jabiru (mining and the gateway to Kakadu National Park) and Katherine (tourism and seasonal work in fruit picking); and in South Australia, Coober Pedy, an opal mining town on the main route linking Adelaide and Alice Springs. Local opinion holds that the extent of temporary employment in Coober Pedy is vastly underestimated in the Australian Census. Likely reasons include a reputation for extreme secrecy among opal miners. It is believed that many people living and working in the town, especially for relatively short periods, avoid returning a Census form at all.

A number of LGAs on the northwest coast of Western Australia also falls into this group. Mining, oil and gas exploration and extraction in many remote locations are increasingly based on fly-in/fly-out operations with workers spending an extended working week at the mine site then returning to a capital city (Houghton, 1993). A classic example is Roebourne which functions as a mainland service centre for oil and gas operations on the North West Shelf, but is also a 'stopover' location for tourists on the 'round Australia' trip. In other cases there is a nexus between temporary employment and temporary movers: the fruit picking industry in Carnarvon and Wyndham, East Kimberley regularly draws on an itinerant workforce.

Conclusions

Temporary movers make a substantial contribution to the economies of their destinations. One major benefit lies in the support they provide for local businesses through the demand for goods and services.

This features most prominently in tourist centres, but it is equally important in other locations where visitors congregate or through which they pass from time to time. The extent to which some places are dependent on temporary movement was clearly exemplified by the economic downturn in Cairns during the domestic pilots' dispute of 1989 (Bell and Carr, 1994, 63). In other locations, temporary workers represent an integral part of the local economy through the services they provide. The fruit and wool-growing industries have long been dependent on seasonal workforces (pickers and shearers). The emergence of fly-in/fly-out operations in the mining, oil and gas sector, involving a cyclic rotation of staff, is a more recent phenomenon.

Temporary population movements also have other implications. Visitors place pressure on the local environment and have social impacts on the communities with which they interact. Equally important is the demand exerted on local infrastructure, services and facilities, since this has particular implications for local government budgets and financing. Local assistance grants, administered by the Grants Commissions in each State, aim, in principle, to equalise the level of service provision among localities. Present formulae, however, are based principally on the estimated resident population, although other factors are also taken into account in some states (Australian Bureau of Statistics, 1996a).

In practice, the demand for services depends not only on the number and characteristics of residents but also on the size and composition of temporary populations. Estimates of the peak population are clearly needed to ensure that services are adequate but seasonal variations must also be taken into account if services are to be provided efficiently and using the most appropriate methods. For some services, duration of stay and purpose of visit may also be important. To return to the conceptual framework outlined at the start of this paper, what is needed is an annual profile for each destination zone indicating how the magnitude and composition of the temporary population varies over the course of a year, and segmenting this population into specific types.

Local authorities and the Grants Commissions clearly recognise the need for more comprehensive data, and the breadth of demand for 'service population' ' estimates was underlined by responses to a recent Australian Bureau of Statistics (ABS) review of demography statistics (Australian Bureau of Statistics, 1996b). ABS has subsequently examined the issues associated with producing such estimates and it is clear that there is no straightforward solution. User needs vary and no single data source will fulfil all the information requirements (Australian Bureau of Statistics, 1996a). In the absence of a new, purpose-designed collection, what is perhaps required is an eclectic approach, combining various data sets.

While the Census alone cannot provide all the information required to estimate service populations, this paper has shown that it can offer useful insights into some aspects of temporary mobility. One avenue for refinement of the work presented here lies in a clearer identification of the roles and functions of individual LGAs. Linking these to the specific characteristics of temporary movers in each location would assist in refining the typology derived above. More detailed analysis of origin-destination networks among these groups would further clarify the picture. It would also serve to focus attention on another facet of temporary mobility not addressed in the present paper — identification of the areas from which usual residents are temporarily absent. There is scope, too, to move beyond simple clustering procedures which allocate localities to discrete classes. Techniques such as fuzzy sets, which allow for simultaneous membership of more than one class, might better address the fact that some regions appear to host several types of temporary mover.

Combining Census information with other data sets would not only provide supplementary data for particular destinations, but could also add a temporal dimension. The ABS review of service populations (Australian Bureau of Statistics, 1996a) identified a number of potential data sources. Possibilities include the Australian Institute of Health and Welfare, to identify the locations of temporary residents in aged care facilities; and the Commonwealth Employment Service, to locate concentrations of seasonal workers and establish the timing and perhaps the pattern of their movements (Australian Bureau of Statistics, 1996a). Extended coding of journey to work data, proposed for the 1996 Census, will help in identifying the significance of fly-in/fly-out activities in remote mining areas such as the Pilbara (Australian Bureau of Statistics, 1996a). It should also be possible to employ synthetic estimation techniques to combine Census data with information from the Domestic Tourism Monitor, thereby deriving the reasons for temporary movement and the annual profile of visitation, at least at the regional level. However, there will inevitably be some forms of temporary mobility that follow no consistent pattern in space and time which will prove difficult to isolate and classify.

Underpinning the practical issues of estimating service populations there is a number of theoretical and methodological challenges. The critical features that differentiate temporary mobility from migration are its repetitive nature, varying duration, seasonal variability and distinctive spatial patterning. While these features reinforce the need to view population movements as a continuum in time and space, they also underline the need to compartmentalise mobility in order to understand its dynamics and the forms it takes. This in turn requires the development of new measures to quantify the frequency, duration and timing of temporary population movements, issues which have received only limited attention to date (Taylor, 1986). For service providers, financiers and population geographers alike, temporary population mobility offers a challenging and important field of inquiry.

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REFERENCES

Australian Bureau of Statistics, 1991: *1991 Census Dictionary.* Catalogue Number 2901.0, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics, 1996a: *When ERPs Aren't Enough: a Discussion of Issues Associated with Service Population Estimation.* Demography Working Paper 96/ 4, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics, 1996b: *Review of Demography Statistics, 1996.* Demography Working Paper 96/2, Australian Bureau of Statistics, Canberra.

Behr, M. and Gober, P., 1982: When a residence is not a house: examining residence-based migration definitions. *The Professional Geographer* 34, 178–184.

Bell, M.J., 1992: *Internal Migration in Australia 1981–1986.* Australian Government Publishing Service, Canberra.

Bell, M.J.,1995: *Internal Migration in Australia 1986–1991: Overview Report.* Australian Government Publishing Service, Canberra.

Bell, M.J., 1996a: How often do Australians move: alternative measures of population mobility. *Journal of the Australian Population Association* 13, 101–124.

Bell, M.J., 1996b: Repeat and return migration. In Newton, P.W. and Bell, M.J. (eds) *Population Shift: Mobility and Change in Australia.* Australian Government Publishing Service, Canberra, 147–164.

Bell, M.J. and Carr, R., 1994: *Japanese Temporary Residents in the Cairns Tourism Industry.* Australian Government Publishing Service, Canberra

Bell, M.J. and Maher, C.A., 1995: *Internal Migration in Australia 1986-1991: The Labour Force.* Australian Government Publishing Service, Canberra.

Buchanan, I., 1996: Examination of the relationship between VFR travel and the population of Australian tourism regions. Proceedings of the Australian Tourism and Hospitality Research Conference, Coffs Harbour, 6–9 February, Bureau of Tourism Research, Canberra.

Bureau of Tourism Research, 1995a: *Domestic Tourism Monitor 1993–94.* Bureau of Tourism Research, Canberra.

Bureau of Tourism Research, 1995b: *International Visitor Survey December Quarter 1994.* Bureau of Tourism Research, Canberra.

Chapman, M. and Prothero, R.M., 1983: Themes on circulation in the third world. *International Migration Review* 17, 597–632.

Dwyer, L., Burnley, I.H., Forsyth, P. and Murphy, P., 1993: *Tourism-Immigration Interrelationships.* Australian Government Publishing Service, Canberra.

Faulkner, H.W., 1988: An overview of tourism research in Australia. In Faulkner. H.W. and Fagence, M. (eds) *Frontiers of Australian Tourism.* Bureau of Tourism Research, Canberra, 146–159.

Faulkner, H.W., Pearce, P., Shaw, R. and Weiler, B., 1995: Tourism research in Australia: confronting the challenges of the 1990s and beyond. In Faulkner, H.W., Fagence, M., Davidson, M. and Craig-Smith, S. (eds) *Tourism Research and Education in Australia.* Proceedings from the Tourism Research and Education Conferences, Queensland, February 1994, Bureau of Tourism Research, Canberra, 3–25.

Houghton, D.S., 1993: Long distance commuting: a new approach to mining in Western Australia. *Geographical Journal* 159, 281–290.

Hugo, G.J., 1987: Using census data to study elderly migration: problems and possibilities. *International Migration Review 21,* 1370–1394.

Hugo, G.J., 1988: Mobile or moribund: population dynamics. In Heathcote, R.L. (ed.) *The Australian Experience: Essays in Australian Land Settlement and Resource Management.* Allen and Unwin, Sydney, 257– 274.

Jones, B., 1996: Reforming the system? a review of Australian tourism statistics, Proceedings of the Australian Tourism and Hospitality Research Conference, Coffs Harbour, 6–9 February, Bureau of Tourism Research,

Canberra.

Mings, R.C., 1997: Tracking snowbirds in Australia: winter sun seekers in Far North Queensland. *Australian Geographical Studies* 35, 168–182.

Pollard, H.M., 1996: Seasonal and permanent moves among the elderly. In Newton, P.W. and Bell, M.J. (eds) *Population Shift: Mobility and Change in Australia.* Australian Government Publishing Service, Canberra, 378–391.

Prothero, R.M. and Chapman, M. (eds), 1984: *Circulation in Third World Countries.* Routledge and Kegan Paul, London.

Sloan, J. and Kennedy, S., 1992: *Temporary Movements of People to and from Australia.* Australian Government Publishing Service, Canberra.

Smith, S.K., 1994: Estimating temporary populations. *Applied Demography* 9, 4–7.

Stimson, R.J., Minnery, J.R., Kabamba, A. and Moon, B., 1996: *'Sun-belt' Migration Decisions: a Study of the Gold Coast.* Australian Government Publishing Service, Canberra.

Taylor, J., 1986: Measuring circulation in Botswana. *Area* 18, 203–208.

Taylor, J., 1996: Short-term indigenous population mobility and service delivery. Discussion Paper 118/1996, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Taylor, J. and Bell, M.J., 1996: Population mobility and indigenous peoples: the view from Australia. *International Journal of Population Geography 2,* 153– 169.

Trickett, P., 1992: Preliminary assessment of the 1991 Census undercount. Paper presented to the sixth national conference of the Australian Population Association, Sydney, 28–30 September, Demography Sections, Australian Bureau of Statistics, Canberra. Copies available from Demography Section, Austalian Bureau of Statistics, Canberra.

Ward, J.H., 1963: Hierarchical grouping to optimize an objective function. *Journal of the American Statistical Association* 58, 236–244.

Wulff, M. and Newton, P.W., 1996: Mobility and social justice. In Newton, P.W. and Bell, M.J. (eds) *Population Shift: Mobility and Change in Australia.* Australian Government Publishing Service, Canberra, 426–443.

Zelinsky, W., 1971: The hypothesis of the mobility transition. *The Geographical Review* 61, 219–249.

Zelinsky, W., 1983: The impasse in migration theory: a sketch map for potential escapees. In Morrison, P.A. (ed.) *Population Movements: their Forms and Functions in Urbanization and Development.* Ordina Editions, Liège, 19–46.

TABLE I. People counted away from home, Australia, 1976 to 1996
(Source: Australian Bureau of Statistics Censuses, unpublished data).

Census date	Number	Per cent of Population	Five year change Number	Per cent
30 June 1976	688 122	5.1		
30 June 1981	855 229	5.9	167 107	24.3
30 June 1986	721 892	4.6	-133 337	-15.6
6 August 1991	817 421	4.9	95 529	13.2
6 August 1996	972 780	5.4	155 359	19.0

TABLE II. Characteristics of temporary movers and people counted at home, Australia, 1991 (per cent)
(Source: Australian Bureau of Statistics, 1991 Census, one per cent sample file).

Characteristic	People counted at home	Temporary movers
Age		
0–14	23.0	11.6
15–34	31.8	36.8
35–54	26.2	21.9
55+	19.1	29.7
Dwelling type		
Private dwellings	97.8	71.2
Hotels, motels and boarding houses	0.3	13.7
Hospitals and homes for the aged	1.0	7.0
Other non-private dwellings	0.8	8.1
Total non-private dwellings	2.2	28.8
Marital status (people aged 15 and over)		
Never married	29.0	35.1
Married	56.8	46.5
Separated, divorced and widowed	14.1	18.4
Labour force status (people aged 5 and over)		
Employed	56.2	47.2
Unemployed	7.4	7.9
Not in the labour force	36.4	44.9
Industry (people aged 15 and over)		
Extractive	5.8	10.3
Transformative	22.3	18.5
Distributive	27.2	25.4
Producer services	12.1	11.2
Consumer services	25.1	26.2
Personal services	7.6	8.3
Occupation (people aged 15 and over)		
Managers, professionals and para-professionals	33.1	39.7
Tradespeople	14.5	14.5
Clerks, sales and service workers	31.5	26.6
Plant operators and labourers	20.9	19.3
Income (people aged 15 and over)		
A$0–12 000	45.3	48.5
A$12 001–30 000	38.1	33.9
A$30 001–50 000	13.0	12.7
More than A$50 000	3.6	4.9
Mobility status 1986–91 (people aged 5 and over)		
Did not change residence	56.7	54.4
Changed residence	43.3	45.6
Total	100.0	100.0

TABLE III. Source of temporary movers and permanent migrants, Australia, 1991
(Sources: Australian Bureau of Statistics, 1991 Census, unpublished data; Bell, 1995, Table 2.2).

Movers from	Number	Per cent of total	Per cent of temporary movers	Per cent of permanent migrants 1986–91
Same SLA	151 029	0.9	18.5	27.0
Other SLA, same state	375 822	2.2	46.0	50.6
Interstate	211 692	1.3	25.9	12.1
Overseas	78 878	0.5	9.6	10.3
Counted away from home	817 421	4.9	100.0	100.0
Counted at home	16 033 119	95.1		
Total count	16 850 540	100.0		

TABLE IV. Purpose of visit by type of trip, Australia, 1993–94 (per cent)
(Sources: Bureau of Tourism Research, 1995a; 1995b).

Purpose of trip	Intrastate[1]	Interstate[1]	Overseas[2,3]
Holidays and pleasure	39.3	37.3	62.3
Visit friends and relatives	29.9	26.5	17.4
Business and conferences	15.8	23.5	10.3
Other reasons	15.0	12.7	10.0
Total	100.0	100.0	100.0

1. Proportion of trips
2. Proportion of visitors

TABLE V. The source of temporary movers, by state and territory (per cent), 1991
(Source: Australian Bureau of Statistics, 1991 Census, unpublished data).

State or territory	Per cent of enumerated population from:				Total temporary movers (per cent)	Total number of temporary movers
	Same	Other SLA same state	Interstate	Overseas		
New South Wales	1.0	2.1	0.9	0.4	4.3	246 665
Victoria	0.7	1.8	0.5	0.3	3.3	142 068
Queensland	0.8	2.8	2.9	0.9	7.4	221 728
South Australia	1.0	2.0	0.8	0.3	4.1	57 925
Western Australia	1.1	3.1	1.0	0.5	5.7	89 764
Tasmania	1.4	2.1	0.9	0.2	4.5	20 487
Northern Territory	1.1	2.8	9.3	1.8	14.9	26 144
Australian Capital Territory	0.5	1.2	2.3	0.5	4.5	12 640
Australia	0.9	2.2	1.3	0.5	4.9	817 421

TABLE VI. Net interstate temporary movements, 1991, and net interstate migration, 1990–91 *(Source:* Australian Bureau of Statistics, 1991 Census, unpublished data).

State or territory	Net interstate migration 1990–91	Net temporary movements 1991
New South Wales	−13 022	−7 310
Victoria	−14 733	−54 661
Queensland	26 671	64 023
South Australia	1 150	−11 951
Western Australia	−2 264	2 932
Tasmania	583	−4 197
Northern Territory	−1 219	13 413
Australian Capital Territory	2 834	−2 249

TABLE VII Local government areas by proportion of temporary movers *(Source:* Australian Bureau of Statistics, 1991 Census, unpublished data).

Class interval	Number of LGAs	Per cent of total
0–4.9%	452	54.1
5–9.9%	269	32.2
10–19.9%	79	9.4
20–49.9%	34	4.1
50%+	2	0.2
Total	836	100.0

TABLE VIII. Local government areas where more than 20 per cent of those enumerated were temporary movers
(Source: Australian Bureau of Statistics, 1991 Census, unpublished data).

LGA	State or territory	Temporary movers	Census count	Percentage from:				
				Same LGA	Other LGA same state	Interstate	Overseas	Total
Snowy River (S)	NSW	10 810	17 077	1.0	47.8	13.1	1.3	63.3
Shark Bay (S)	WA	932	1 623	2.2	38.7	13.7	2.8	57.4
Bright (S)	Vic	5 904	11 846	1.4	29.5	18.2	0.8	49.8
Sandstone (S)	WA	168	353	0.8	42.5	3.4	0.8	47.6
Yalgoo (S)	WA	288	678	3.5	37.6	0.9	0.4	42.5
Exmouth (S)	WA	1 621	3 820	1.3	33.2	6.5	1.5	42.4
Unincorporated	NSW	1 781	4 227	1.1	27.0	12.8	1.3	42.1
Cue (S)	WA	318	859	2.6	32.4	2.1	0.0	37.0
Douglas (S)	Qld	4 583	12 429	1.6	4.5	23.9	6.8	36.9
Bulloo (S)	Qld	282	800	1.9	21.6	11.4	0.4	35.3
Mansfield (S)	Vic	2 981	8 465	1.4	25.9	6.9	1.0	35.2
Diamantina (S)	Qld	1 123	334	4.2	8.4	20.1	0.9	33.5
Broome (S)	WA	3 735	11 151	3.0	17.8	11.6	1.1	33.5
Carnarvon (S)	WA	3 027	9 061	2.3	24.4	5.7	1.0	33.4
Murchison (S)	WA	61	183	3.3	28.4	0.0	1.6	33.3
Sydney (C)	NSW	4 503	13 528	0.4	6.3	8.4	18.1	33.3
Etheridge (S)	Qld	448	1 378	4.4	20.2	7.2	0.7	32.5
Isisford (S)	Qld	133	443	5.6	19.4	3.6	1.4	30.0
Northampton (S)	WA	1 064	3 551	2.2	19.8	6.1	1.9	30.0
Coomalie (CGC)	NT	350	1 233	1.5	9.8	16.0	1.1	28.4
Whitsunday (S)	Qld	4 070	15 223	1.9	6.7	14.3	3.9	26.7
Adelaide (C)	SA	3 969	14 863	1.4	12.5	9.1	3.7	26.7
Wyndham (S)	WA	2 001	7 716	2.7	11.2	11.3	0.8	25.9
Upper Gascoyne (S)	WA	88	342	0.9	22.2	1.8	0.9	25.7
Jabiru (T)	NT	440	1 741	1.1	4.7	16.8	2.6	25.3
Coober Pedy (DC)	SA	712	2 874	2.4	7.4	11.4	3.5	24.8
Omeo (S)	Vic	459	1 920	1.4	15.3	7.3	0.0	23.9
Unincorporated	SA	2 944	12 345	1.9	11.9	9.0	1.0	23.8
Menzies (S)	WA	69	310	3.2	16.1	2.9	0.0	22.3
Meekatharra (S)	WA	476	2 173	1.9	18.7	0.7	0.6	21.9
Cairns (C)	Qld	10 477	49 367	1.4	5.1	8.5	6.2	21.2
Barcoo (S)	Qld	118	560	2.7	13.8	4.6	0.0	21.1
Leonora (S)	WA	610	2 909	2.0	16.5	2.0	0.5	21.0
Croydon (S)	Qld	58	281	2.1	13.2	5.3	0.0	20.6
Cook (S)	Qld	1 809	8 792	2.2	10.7	6.9	0.8	20.6
Mount Magnet (S)	WA	235	1 162	2.0	13.6	4.4	0.3	20.2

S: Shire. C: City. CGC: Community Government Council. T: Town. DC: District Council.

TABLE IX. A typology of temporary mover destinations

Type of region	**Key activities**	**Principal source of temporary movers**	**Principal locations**	**Example LGAs**
The inner cities	Tourism business, hotels, hostels, hospitals	All sources, but with a strong overseas contingent.	Inner cities, especially of the larger metropolitan centres	Sydney, South Sydney, Melbourne, South Melbourne, Adelaide
Major tourist destinations (centres of mining and industries with an primary production)	Tourist attractions and resorts	Mainly interstate, but including overseas and intrastate	Coastal Queensland	Douglas, Cairns, Whitsunday, Gold Coast
	Tourist attractions	Mainly intrastate, but including interstate and overseas	Coastal Western Australia	Shark Bay, Broome, Northampton, Exmouth
	Tourist attractions	Mainly intrastate, but including interstate and overseas	Snowfields, remote Queensland	Snowy River, Bright, Mansfield, Cook
Temporary employment	Mining, seasonal work, industries with an itinerant workforce	Widely from within Australia − mainly intrastate, but including interstate	Remote Queensland	Isisford, Quilpie
			Remote Western Australia	Murchison, Sandstone, Yalgoo, Cue, Menzies, Meekathara, Leonora, Mt Magnet
Stopover and temporary employment locations	Tourist stopover locations and temporary employment	Mainly intrastate, but including interstate	Remote Queensland	Diamantina, Barcoo, Bulloo, Croydon, Etheridge
			Remote Northern Territory	Jabiru, Katherine
			Remote South Australia	Coober Pedy
			Remote Western Australia	Carnarvon, Roebourne, Wyndham, East Kimberley

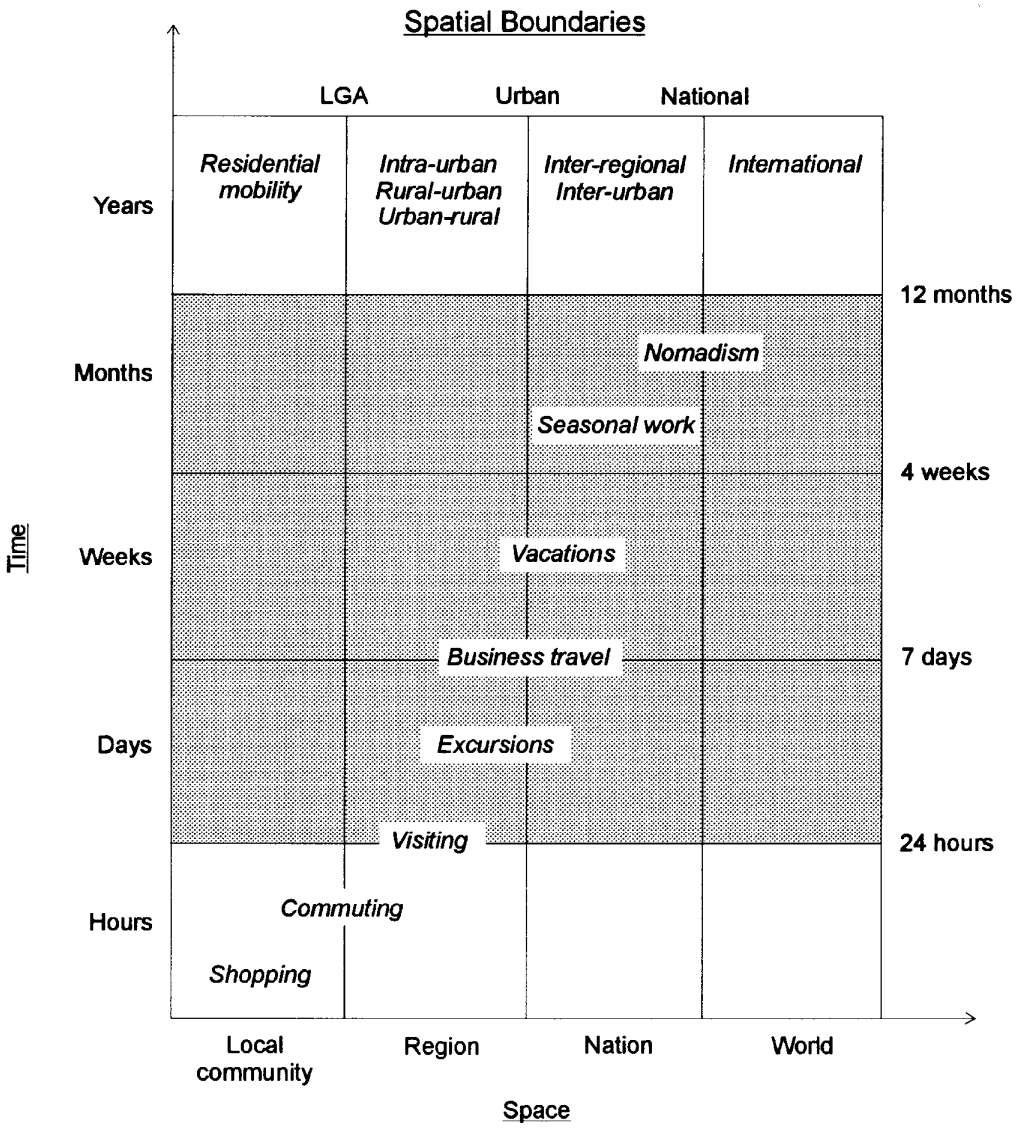

Figure 1 Population mobility in space and time *(Source:* Bell, 1992, Figure 1.1).

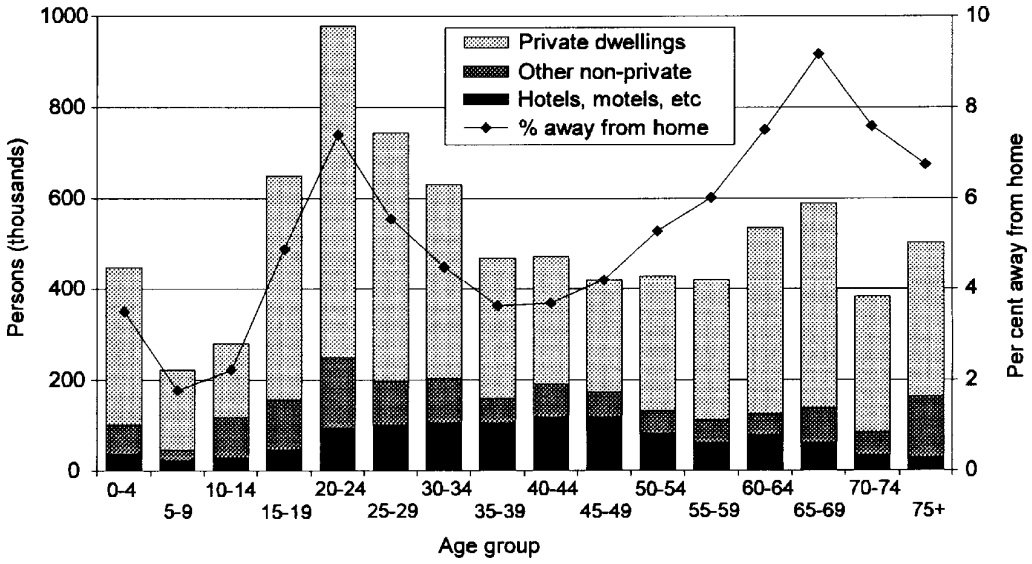

Figure 2. People counted away from home by age and dwelling type, Australia, 1991 Census (Source: Australian Bureau of Statistics, 1991 Census, one per cent households sample file).

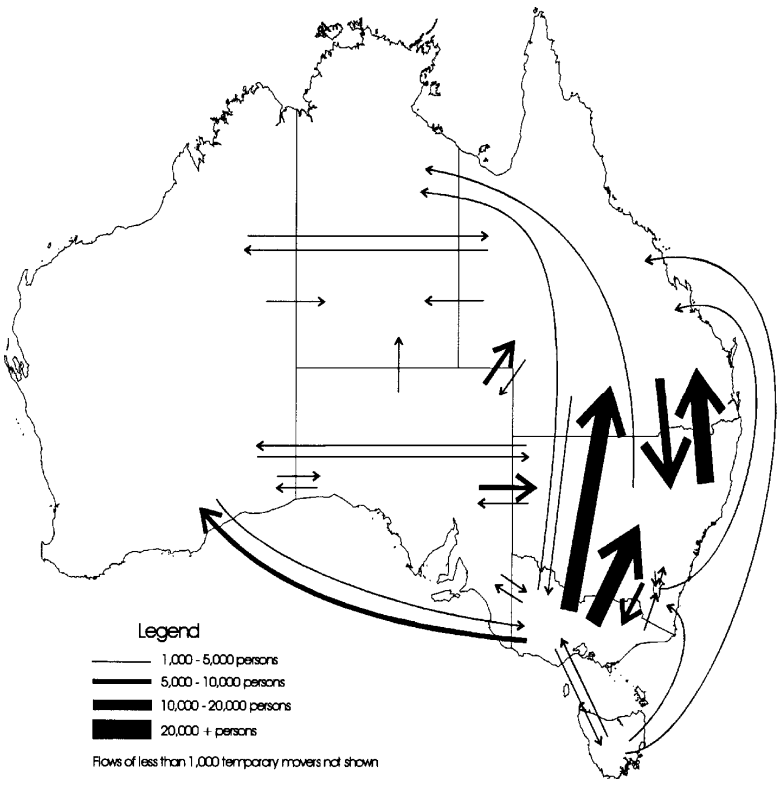

Figure 3. Temporary mobility, interstate flows, 1991
(Source: Australian Bureau of Statistics, 1991 Census, unpublished data).

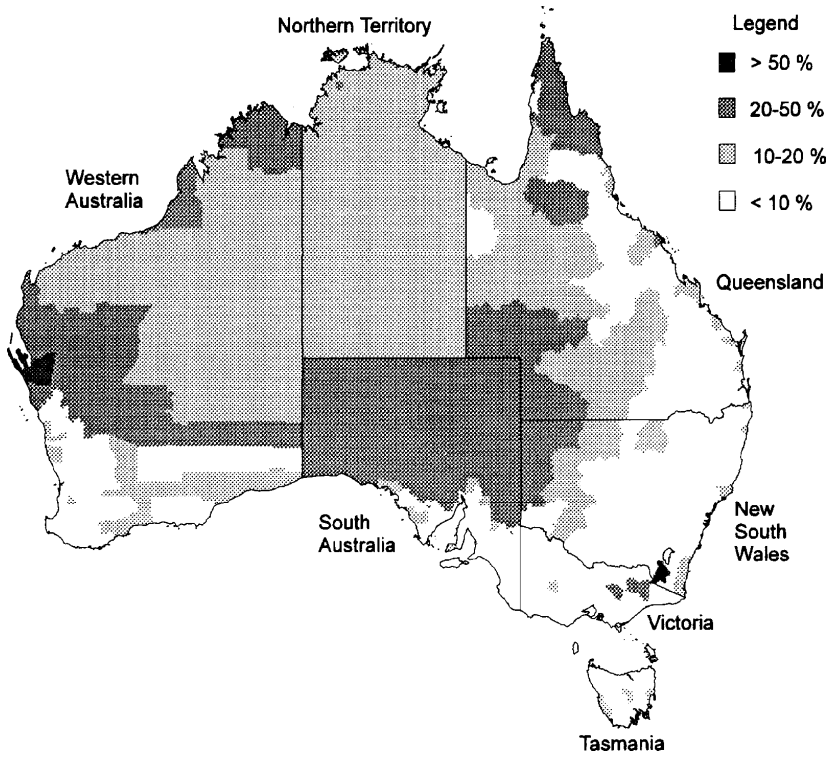

Figure 4. Distribution of Local Government Areas with temporary movers exceeding 10 per cent of total persons enumerated in 1991
(Source: Australian Bureau of Statistics, 1991 Census, unpublished data).

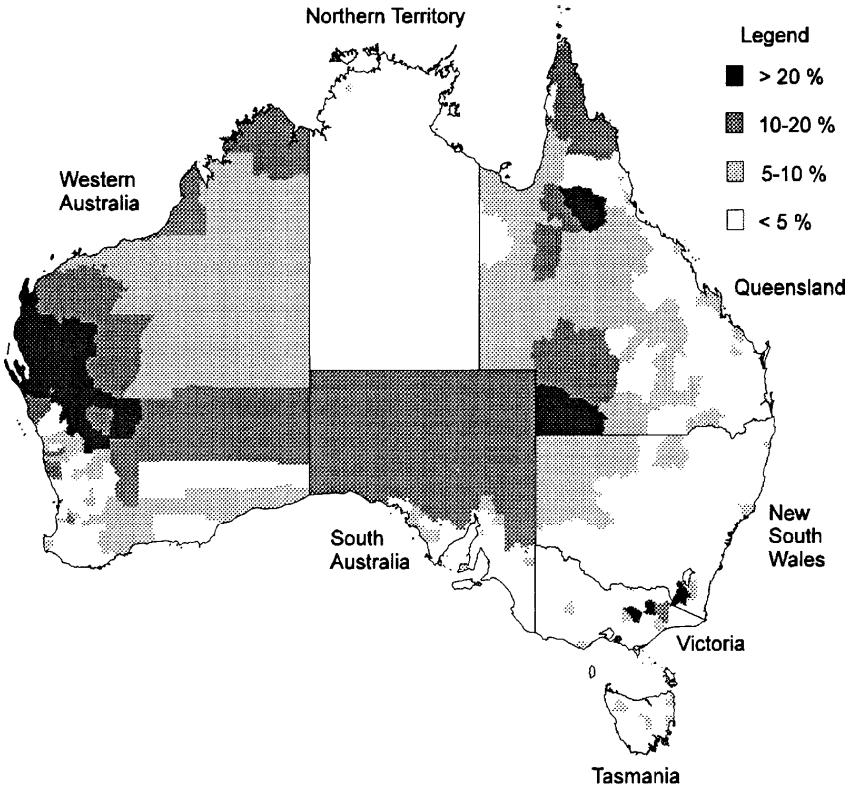

Figure 5. Local Government Areas with large proportions of temporary movers from same state
(Source: Australian Bureau of Statistics, 1991 Census, unpublished data).

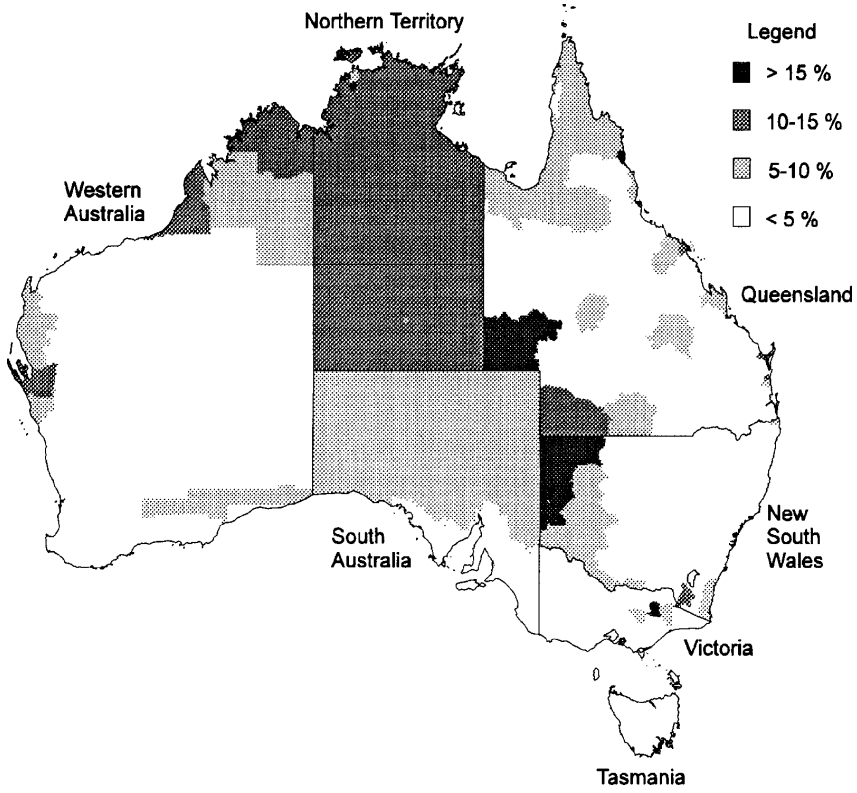

Figure 6. Local Government Areas with large proportions of temporary movers from interstate *(Source:* Australian Bureau of Statistics, 1991 Census, unpublished data).

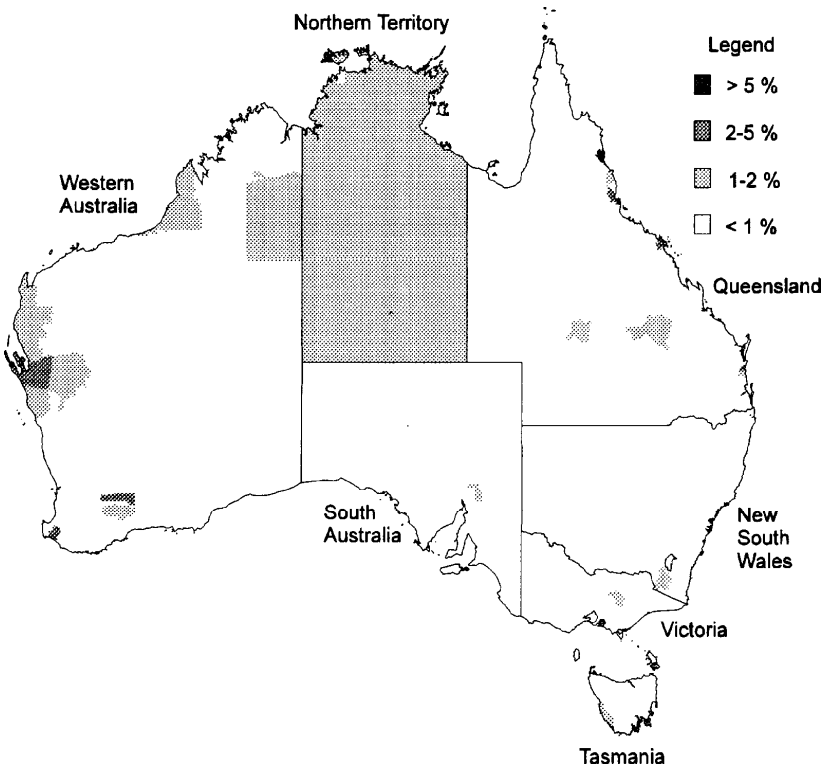

Figure 7. Local Government Areas with large proportions of temporary movers from overseas *(Source:* Australian Bureau of Statistics, 1991 Census, unpublished data).